DOCKET NO.: MSFT-2912/305777.02
Application No.: 10/759,325
Office Action Dated: December 12, 2007

PATENT
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PROCEDURE PURSUANT TO
37 CFR § 1.116

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Previously Presented)   A method of communicating between a first component and a second component, the first component and second component being communicatively connected to each other through a bus that is accessible to components other than the first component and the second component, the method comprising:

establishing a light-based communication connection between the first component and the second component in order to ensure a defined positional relationship between the first and second components, wherein the light-based communication connection does not transmit information through the bus;

transmitting a datum between the first component and the second component using said light-based communication connection.

2. (Original)   The method of claim 1, wherein the second component is associated with an identifier of the second component, and said datum comprises said identifier.

3. (Original)   The method of claim 2, wherein said identifier comprises a cryptographic key associated with the second component.

4. (Withdrawn)   The method of claim 1, wherein the first component is a computing device that includes the bus, and wherein the second component is an adapter card that is communicatively connected to said computing device through the bus.

5. (Withdrawn)   The method of claim 1, wherein the first component and the second component are each equipped with light-generating-and-capturing devices that enable light-based communication between the first component and the second component when the light-generating-and-capturing devices are within line of sight and proximal range of each other, and wherein said act of establishing a communication channel between the first and second devices comprises establishing communication between the light-generating-and-capturing devices.

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6. (Withdrawn)   The method of claim 5, wherein each of said light-generating-and-capturing devices comprises an infrared communication device.

7. (Withdrawn)   The method of claim 1, wherein the bus comprises a plurality of pins, one or more of the plurality of pins not being designated for data traffic across said bus, and wherein said communication channel comprises at least some of the one or more non-designated pins.

8. (Withdrawn)   The method of claim 1, wherein the communications channel comprises a wire that is not part of the bus, and wherein said act of establishing a communication channel between the first and second devices comprises communicatively connecting the first component to the second component with said wire.

9. (Withdrawn)   The method of claim 1, wherein a computing device communicates with either the first component or the second component through a local area network or a wide area network, and wherein said communication channel is not readable or writeable by said computing device over said local area network or wide area network.

10. (Currently Amended)   A system comprising:
       a first component;
       a second component communicatively connected to said first component through a first communication channel that includes a bus, said bus being accessible to components other than said first component and said second component; and
       a second communication channel that communicatively connects said first component with said second component using light-based communications, said second communication channel enabling the transmission of a datum in at least one direction between said first component and said second component without exposing said datum to said bus and ensuring a defined positional relationship between the first and second components.

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wherein the first component comprises an electronic device mounted on a computer motherboard, and the second component comprises a plug-in board that plugs into an I/O slot located on the computer motherboard,

and wherein the second light based communication channel enables transmission of said datum between said first component and said second component only when said second component is plugged into the I/O slot thereby establishing a defined positional orientation between the first and second components.

11. (Cancelled)

12. (Cancelled)

13. (Original) The system of claim 10, wherein said second component is associated with an identifier, and wherein said data comprises said identifier, said datum being transmitted from said second component to said first component over said second communication channel.

14. (Original) The system of claim 13, wherein said identifier comprises a cryptographic key associated with said second component, said cryptographic key being used to encrypt data that said first component sends to said second component.

15. (Withdrawn)   The system of claim 10, further comprising a dock through which said first component and said second component communicate with each other, said dock being verifiably within a level of proximity to said first component and to said second component, said second communication channel transmitting said datum between said first component and said second component only when said dock is verified to be within said level of proximity to said first component and to said second component.

16. (Previously presented)   The system of claim 10, wherein said first component and said second component engage in communication according to a protocol over said second light-based communication channel to establish the respective identities and current

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presence of said first component and said second component and to establish that said first component and said second component are within a level of proximity to each other.

17. (Previously Presented)   A computer-readable storage medium encoded with computer-executable instructions to perform a method of verifying that a first component is within a first positional relationship to a second component, the first component and the second component being communicatively connected to each other by a bus that is accessible to sources remote from the first component and the second component, the method comprising:

sending a first datum from the first component to the second component;

receiving a second datum at the first component from the second component, the second datum being communicated from the second component to the first component through a light-based secondary communication channel and without use of the bus;

determining that the second component satisfies the first position relationship based on receipt of the second datum.

18. (Previously presented)   The computer-readable storage medium of claim 17, wherein said first datum comprises a cryptographic key associated with the first component.

19. (Previously presented)   The computer-readable storage medium of claim 17, wherein the first positional relationship comprises the first component and the second component being within a level of proximity to each other.

20. (Previously presented)   The computer-readable storage medium of claim 17, wherein the first component comprises a computing device enclosed by a case, and wherein the first positional relationship comprises said second component being located within said case.

21. (Withdrawn)   The computer-readable medium of claim 17, wherein the second component comprises a dock to which a third component may be interfaced to enable communication between said third component and the first component.

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22. (Withdrawn)   The computer-readable medium of claim 21, wherein the method further comprises:

ensuring that said third component is within a second positional relationship to the second component by engaging in a communication between said third component and the second component, said communication occurring over a channel that is not accessible to sources remote from the third component and said second component.

23. (Previously presented)   The computer-readable storage medium of claim 17, wherein said sending act and said receiving act together comprises a challenge-response protocol, and wherein the method further comprises:

determining, based on said sending act and said receiving act that the second component is engaging in a live communication with the first component over said communication channel and that the second component is not being emulated through a replay attack.

24. (Withdrawn)   A dock through which a first component may be attached to a second component, the dock being communicatively connected to the first component through a bus that is accessible to a third component that is remote from the first component and the second component, the dock comprising:

a port to which the second component can be communicatively connected, the dock communicatively connecting said second component to the bus;

a first side-band communication channel through which the dock communicates with the first component, the side-band communication channel enabling the communication of data between the dock and the first component without use of the bus, the first side-band channel enabling communication of data between the dock and the first component when the dock satisfies a first positional relationship to the first component;

a second side-band communication channel through which the dock communicates with the second component, the second side-band channel enabling communication of data between the dock and the second component when the second component satisfies a second positional relationship to the dock.

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25. (Withdrawn)   The dock of claim 24, wherein the dock engages in a communication with the first component to prove that the dock satisfies said first positional relationship to the first component.

26. (Withdrawn)   The dock of claim 24, wherein the second component communicates with the dock to prove that the second component satisfied the second positional relationship to the dock.

27. (Withdrawn)   The dock of claim 24, wherein the first component comprises a computing device that comprises the bus.

28. (Withdrawn)   The dock of claim 24, wherein at least one of the first positional relationship and the second position relationship comprises a defined level of proximity.

29. (Withdrawn)   The dock of claim 24, further comprising:
        logic that determines at least one of:
            whether the dock is communicating over the first side-band channel with the first component from a position that satisfies said first positional relationship; and
            whether the dock is communicating over the second side-band channel with the second component from a position that satisfies said second positional relationship.

30. (Previously presented)   A method of communicating between a first component and a second component as defined in claim 1, wherein the light-based communication connection comprises an infrared communication connection.

31. (Previously presented)   A system as defined in claim 10, wherein the second communication connection comprises an infrared communication connection.

32. (Previously presented)   A computer readable storage medium as defined in claim 17, wherein the light-based secondary communication channel comprise an infrared communication connection.